

## OVERVIEW

CitySense Plus is a revolutionary integrated wireless motion sensor for the presence-based monitoring and control of outdoor lighting. The product is compatible with both conventional and new luminaires (such as LED).

CitySense Plus delivers on-demand dynamic lighting, making the lights adjust their brightness based on the presence of pedestrians, bicycles, and cars. As a result, the lights automatically dim down during the off-peak hours when there is nobody in the vicinity. Upon detection of the human presence, all lights in the surrounding area return to the brightness levels previously defined by the user. Dynamic lighting reduces energy consumption by up to 80% without compromising public safety and citizen comfort.

The in-built monitoring tools notify users (via CityManager) about the lighting-related faults such as a lamp or ballast failures.

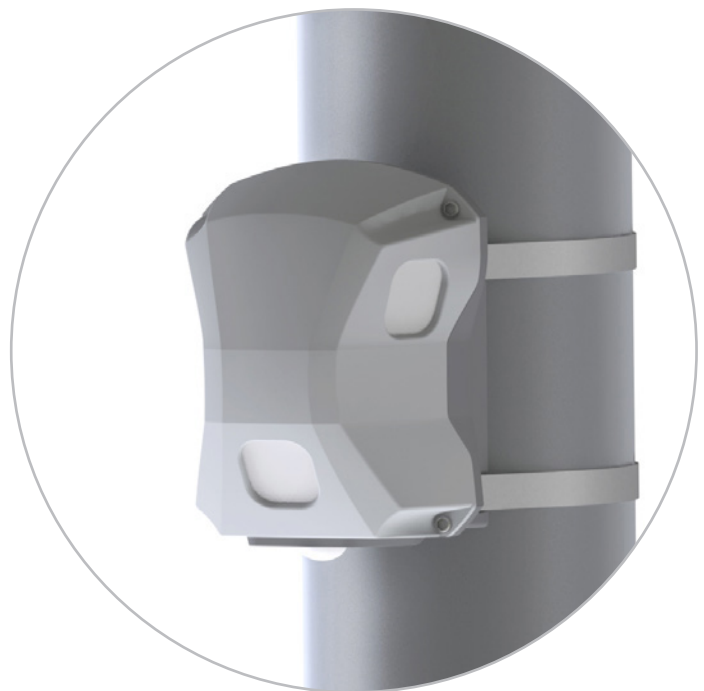
This greatly reduces the need for expensive visual inspections and enables a reduction of operation and maintenance costs.

### features

- Revolutionary outdoor sensor with inbuilt wireless lighting controller
- Advanced detection technology
- Heatmaps to track occupancy levels and traffic intensity in the area
- Full Remote Management & control via CityManager and 3rd party software
- Integrated product – plug & play installation
- Universal lamp compatibility
- Energy monitoring
- Inbuilt astronomical clock
- Open Interfaces for third-party software
- Fail proof: 3-Level back-up system

### benefits

- Up to 80% energy savings
- Up to 50% maintenance cost reduction
- Reduce light pollution and CO<sub>2</sub> emissions
- Light on demand



# EXTERIOR LIGHTING CONTROLS

## specifications

### product

- Motion detection sensor, wireless communication and lighting control integrated into one product for a simple plug-and-play installation. Includes a 5,5m pre-connected power and control cable

### motion detection

- Detects pedestrians, cyclists, and cars (range: 4-120 km/h)
- Range: up to 15 m on each side, 9m in front, 3m behind
- Detection angle: >270 ° (depending on pole diameter)
- Triggering of 1-10 neighboring lamps upon detection (user configurable)

### input voltage

- 230 VAC or 115 VAC, 50/ 60 Hz (depending on variant)

### power consumption

- <3W

### DALI loads

- Max.1

### dimming control

- 0-10 V or DALI

### surge protection

- 125 joules (6 Ka), 2 kV combination wave

### controller

- ARM Cortex-M3 CPU

### electrical protection

- Class II (Overload and short-circuit protection)

### electrical safety

- Galvanic isolation between high-voltage and low-voltage terminals
- External circuit breaker at power input of the product is mandatory

### operating conditions

- -20°C to +60°C operating; -40°C to +85°C storage; 20% to 90%,
- Rh non-condensing

### product mounting

- On the pole. Recommended mounting height 5m above the road surface

### housing

- IP65, UL94V0. Black and Grey models available

### antenna

- Integrated Internally

### dimensions

- 100 mm x 125 mm x 95 mm
- +/- 10 ° adjustable mounting plate to accommodate for pole tilts

### product compatibility

- Plug-and-play compatibility with Skylite family, CitySense, Gateway and CityManager. Compatible with conventional (PLL, HID, HPS) and LED luminaires

### wireless communication

- 2.4 GHz IEEE 802.15.4 self-forming, self-healing wireless network. Transmit power: +9.5dBm max; -96dBm receiver sensitivity. Up to 150m open field range

### network security

- 128 AES Multi-layer security

### over-the-air update

- Configuration, software as well as firmware can be updated remotely ensuring up-to-date network infrastructure

### server communication

- via Gateway

### remote monitoring

- Via CityManager or similar third-party management software. CityManager enables remote management, monitoring, control, and configuration of lamps on individual and group level

### device to gateway

- ratio 200:1

### safety mode

- Auto-safe: in a case of network loss, brightness will go to a pre-defined level depending on the settings. Astro clock based scheduling is still possible.

### certification

- CE, CB, EN61547, EN55015, EN60950-1, EN61347-1/2-11, EN 301 489-1/17, EN 300 328, RoHS.
- RF transceiver compliant with US (FCC), Canadian (IC), European (ETSI), and Japanese (Telec) standards

### manufacturing

- ISO 9001:2008, Made in Europe

### nominal failure rate

- 0.2%/1.000h

### lamp switching capacity

- 1400 VA (Relay), 6A max. current.

### AstroClock

- Battery-backed real-time clock; AstroClock function. Able to switch on/off the lamps at sunset/sunrise and adjust them seasonally (summer-winter time). Eliminates the need for conventional photocell

### warranty

- Standard 2 years limited warranty. Extended warranty available. Warranty subject to proper use of installation and application manuals

### application

- Outdoor street lighting, Area lighting

## available variants

PR150868	230VAC
PR151116	115VAC



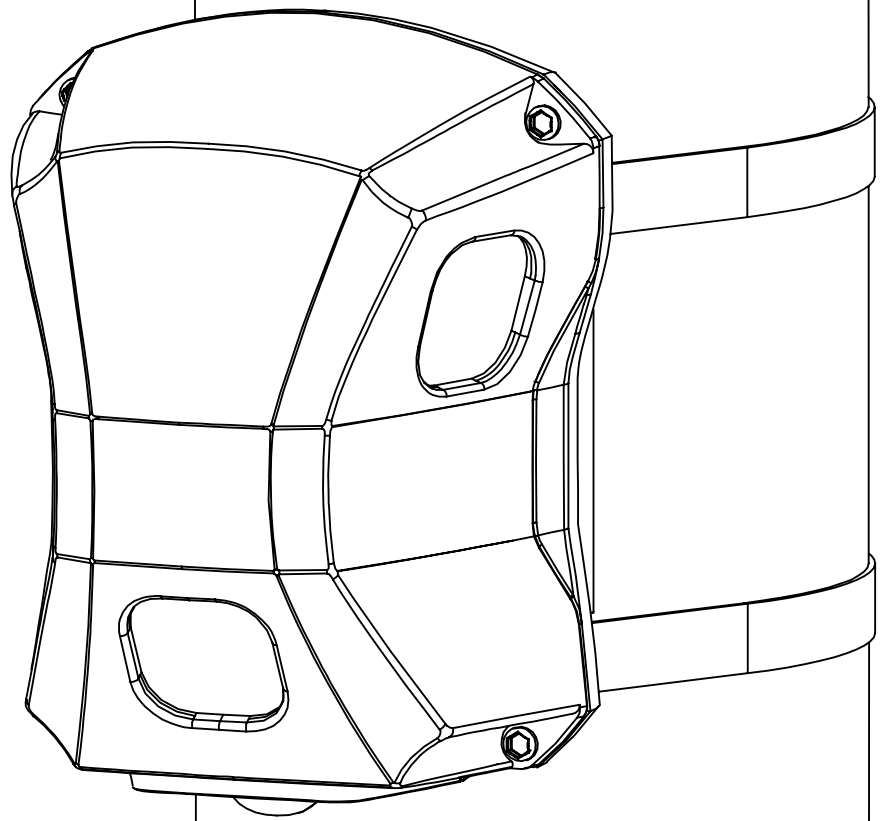
**TVILIGHT**



English

# CitySense Plus

## Installation Manual





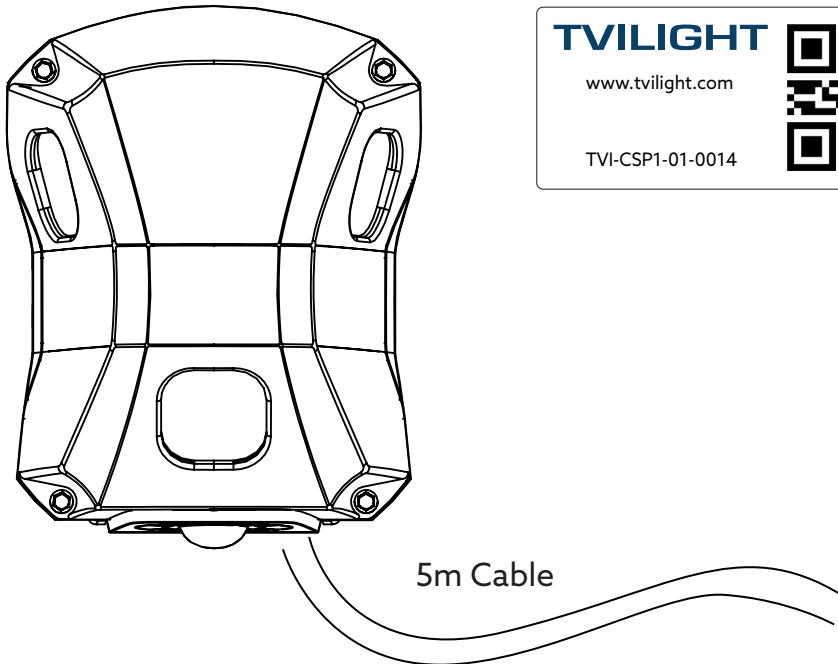
## ATTENTION:

- In order to function properly, CitySense Plus must be connected to a dimmable driver/ballast.

NOTE: Some dimmable drivers/ballasts must be programmed/set to dimmable mode. If this has not been done, CitySense Plus will not be able to dim the connected armature.

# In box:

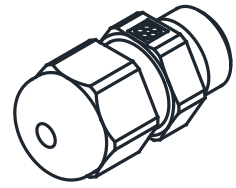
CitySense Plus



Sticker

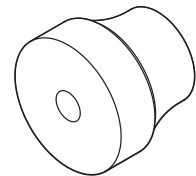


M16 Cable Gland



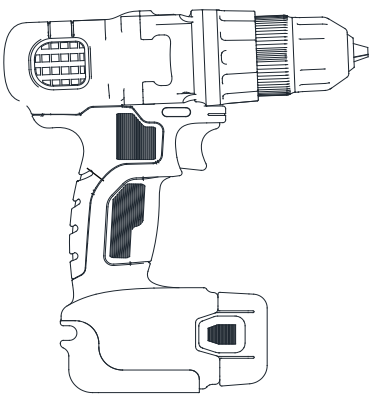
**OR**

20 mm Rubber Grommet

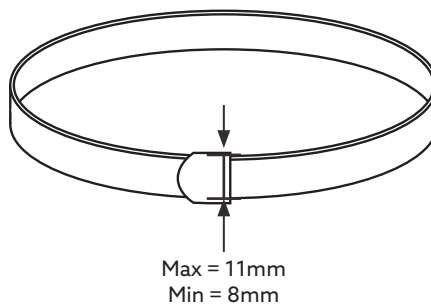


# You'll need:

Drill



Generic Strap x 2



Scan&Go App

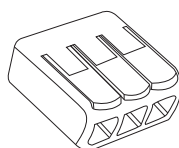


Available in the  
Apple App Store  
and in the  
Google Play Store

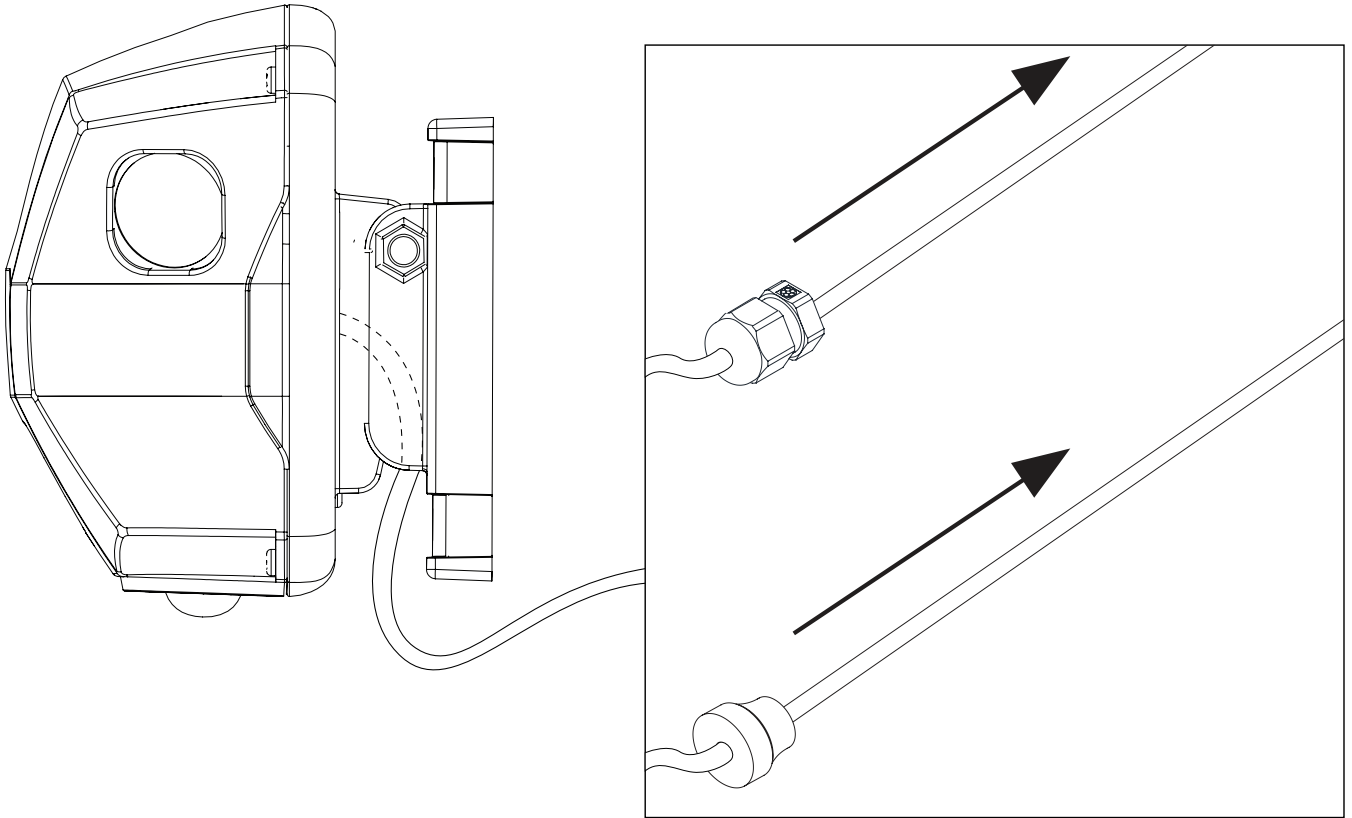
M16 Thread



Wago x 4



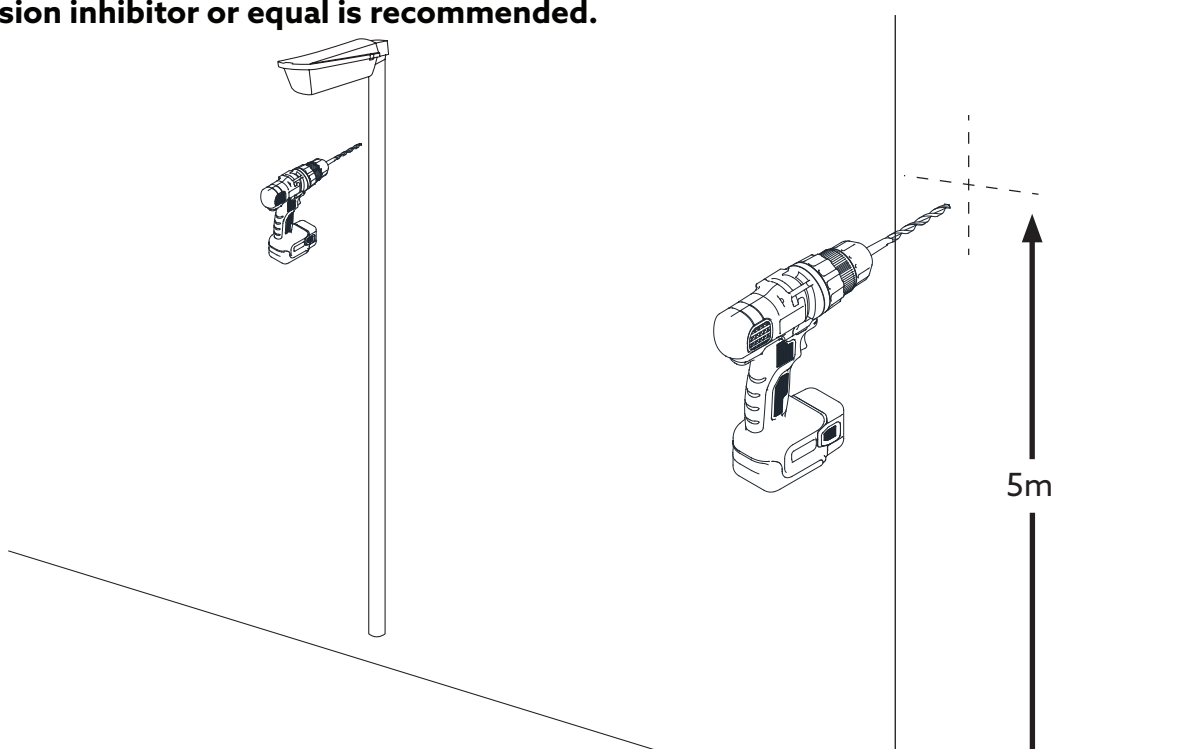
# 1. Run wire through Cable Gland/Grommet



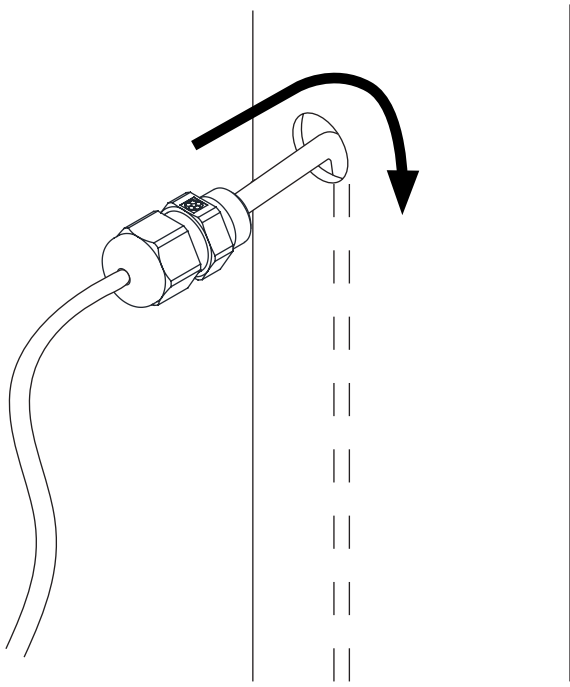
## 2. Drill hole into the pole:

- M16 threaded (Cable Gland) OR
- 20 mm (Grommet)

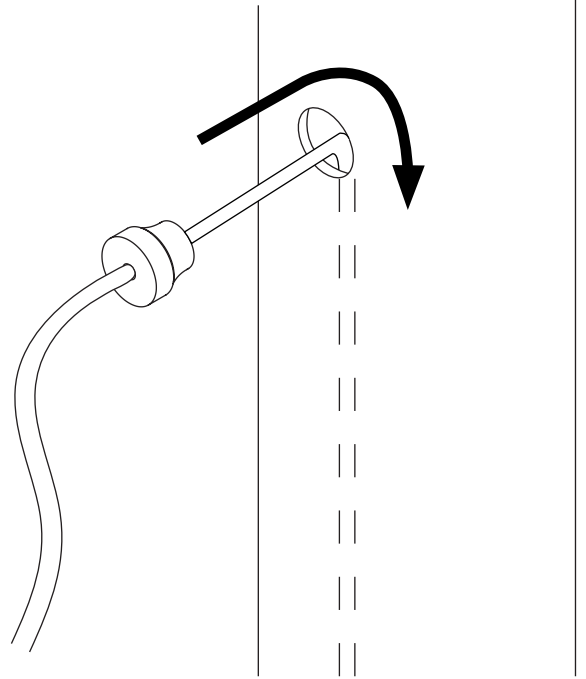
**Note:** for added protection against rust, the use of an anti-corrosion spray such as WD40 Corrosion inhibitor or equal is recommended.



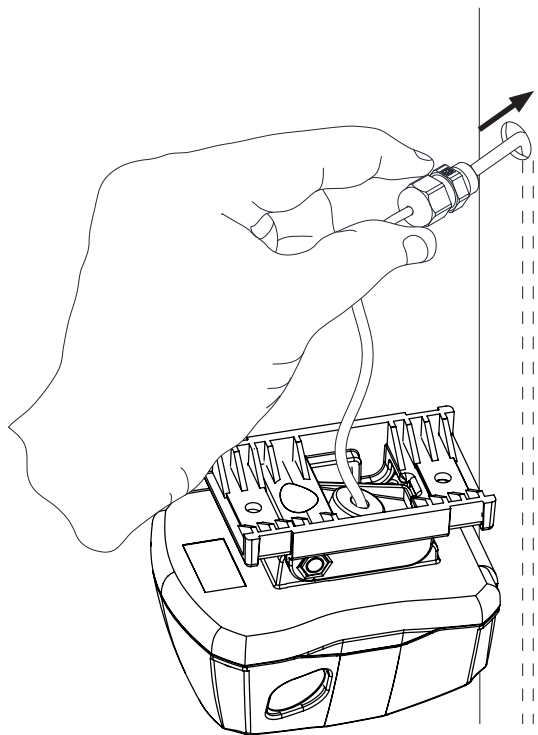
### 3. Run wire through hole in the pole



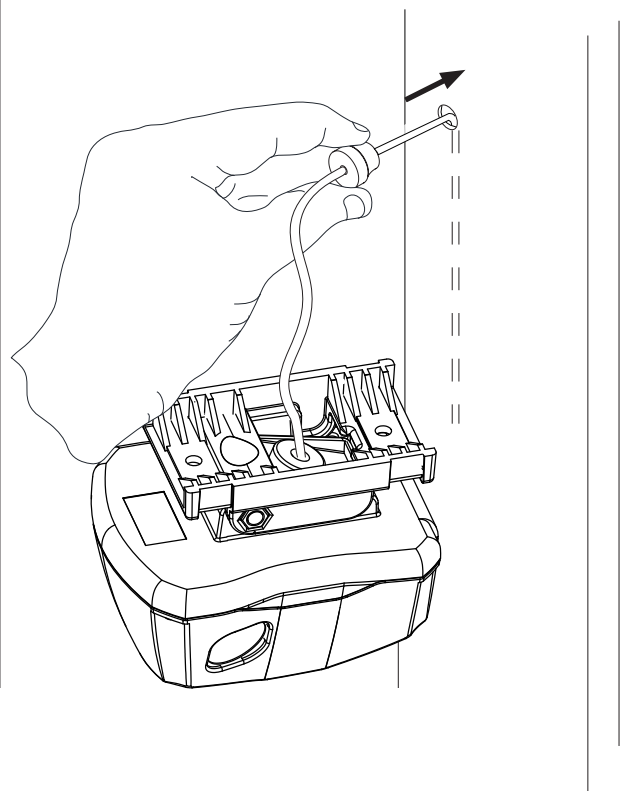
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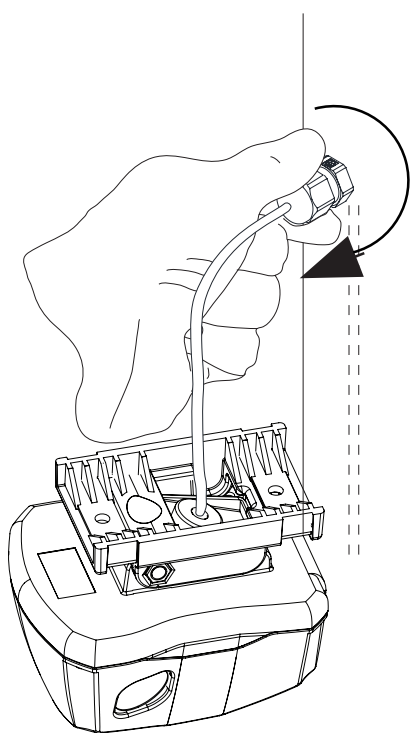
### 4. Insert Cable Gland/Grommet into hole in the pole



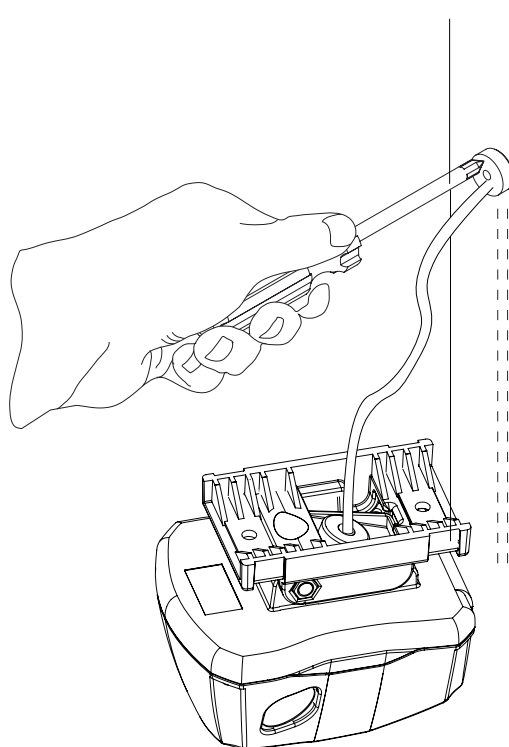
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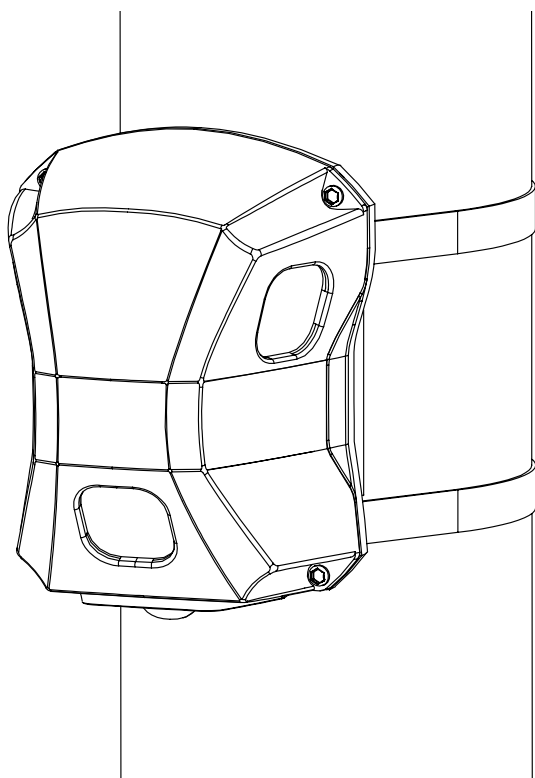
## 5. Screw Cable Gland OR press Grommet into the pole



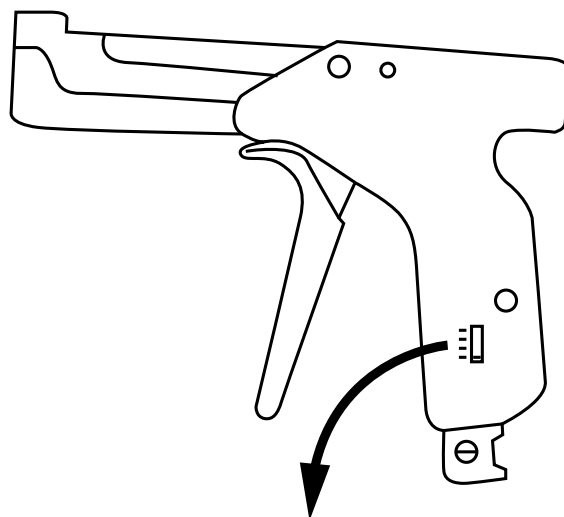
OR



## 6. Strap product to the pole



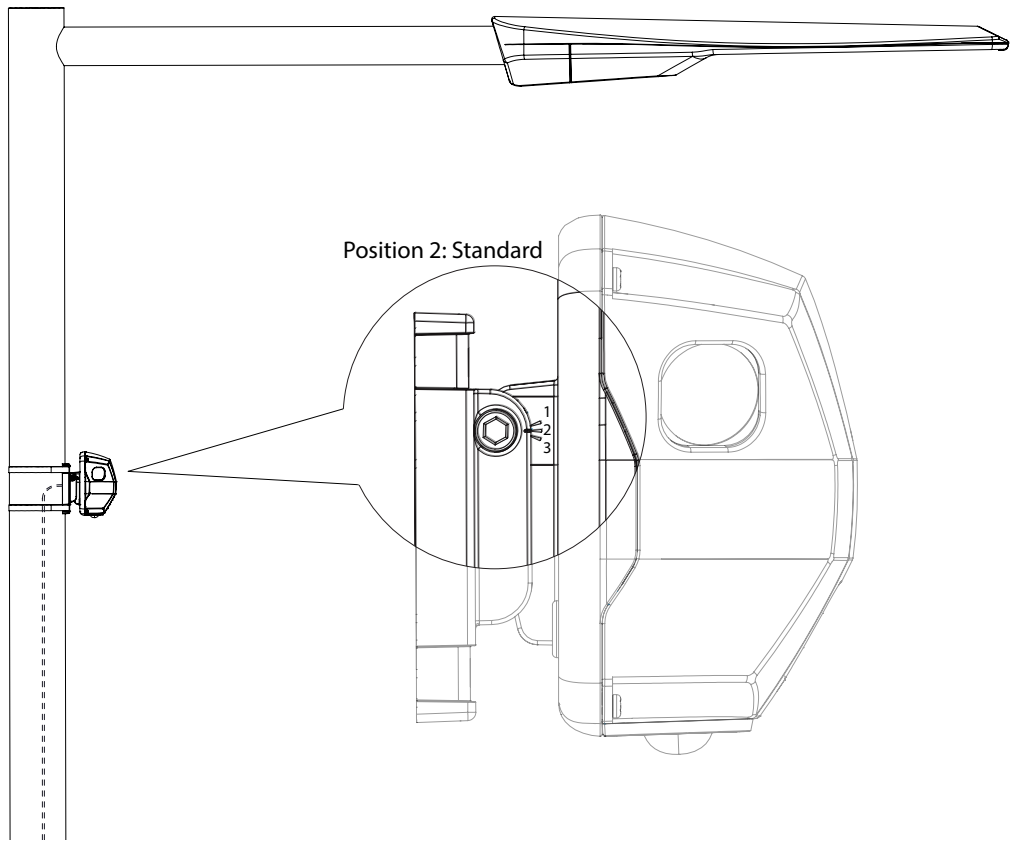
Tensioning Tool



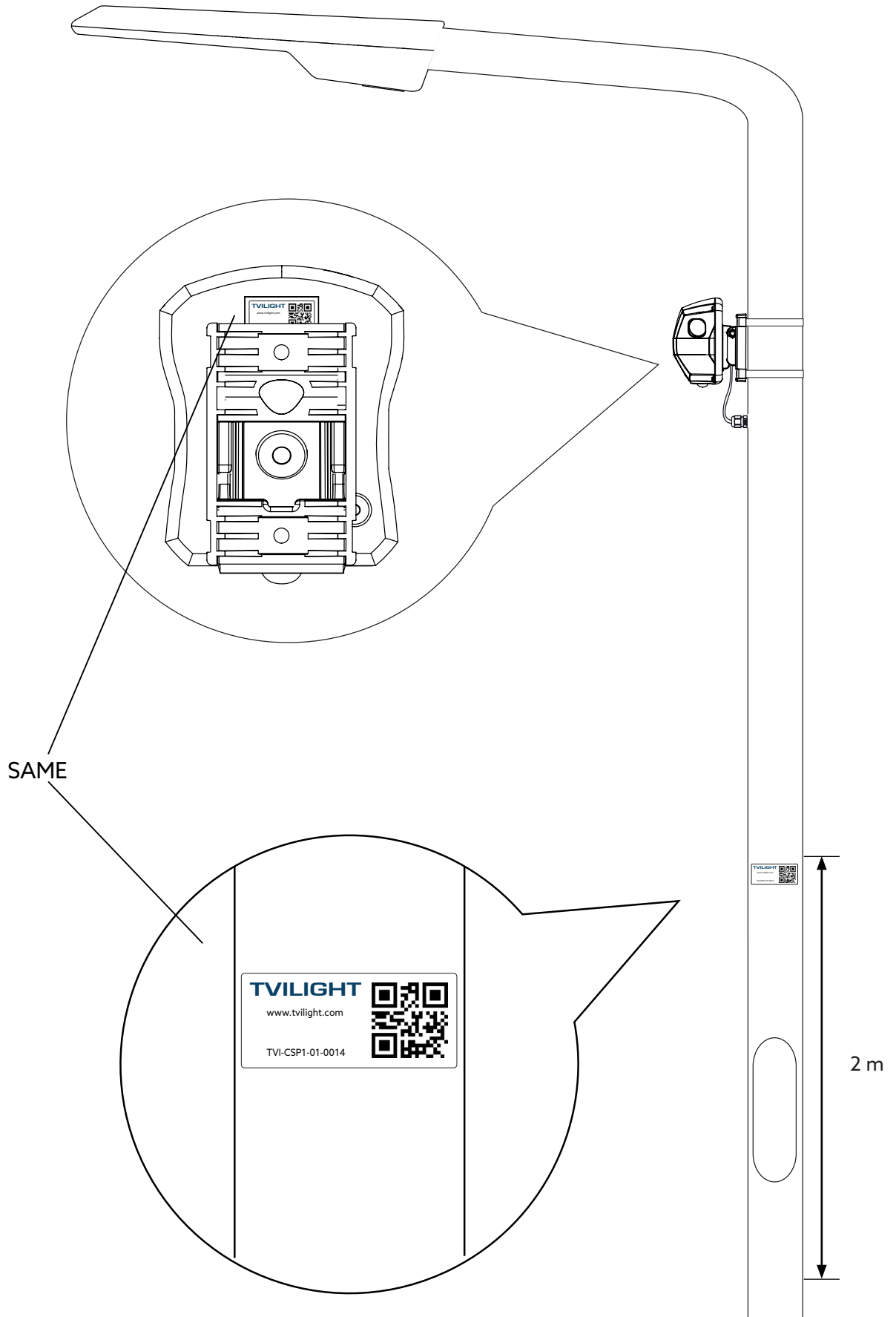
\* Ensure Tensioning Tool is set to maximum tension (#4)



# 7. Level the product



# 8. Apply product ID sticker to pole



# 9. Add device to CityManager

1. Download Tvilight Scan&Go from Apple iOS App Store or from Google Play Store.
2. Login with your Username and Password.
3. Use the 'Add device' function in Scan&Go app to add the device to CityManager.
4. The location of the new device is determined by Scan&Go's GPS and it will be indicated on the map.
5. The Device Serial Number will be added when scanning the QR-Code with the camera.
6. Fill in the required fields (the ones with an asterisk), select the device type and also **select the type of ballast** (PWM or DALI-Logarithmic or DALI-Linear).

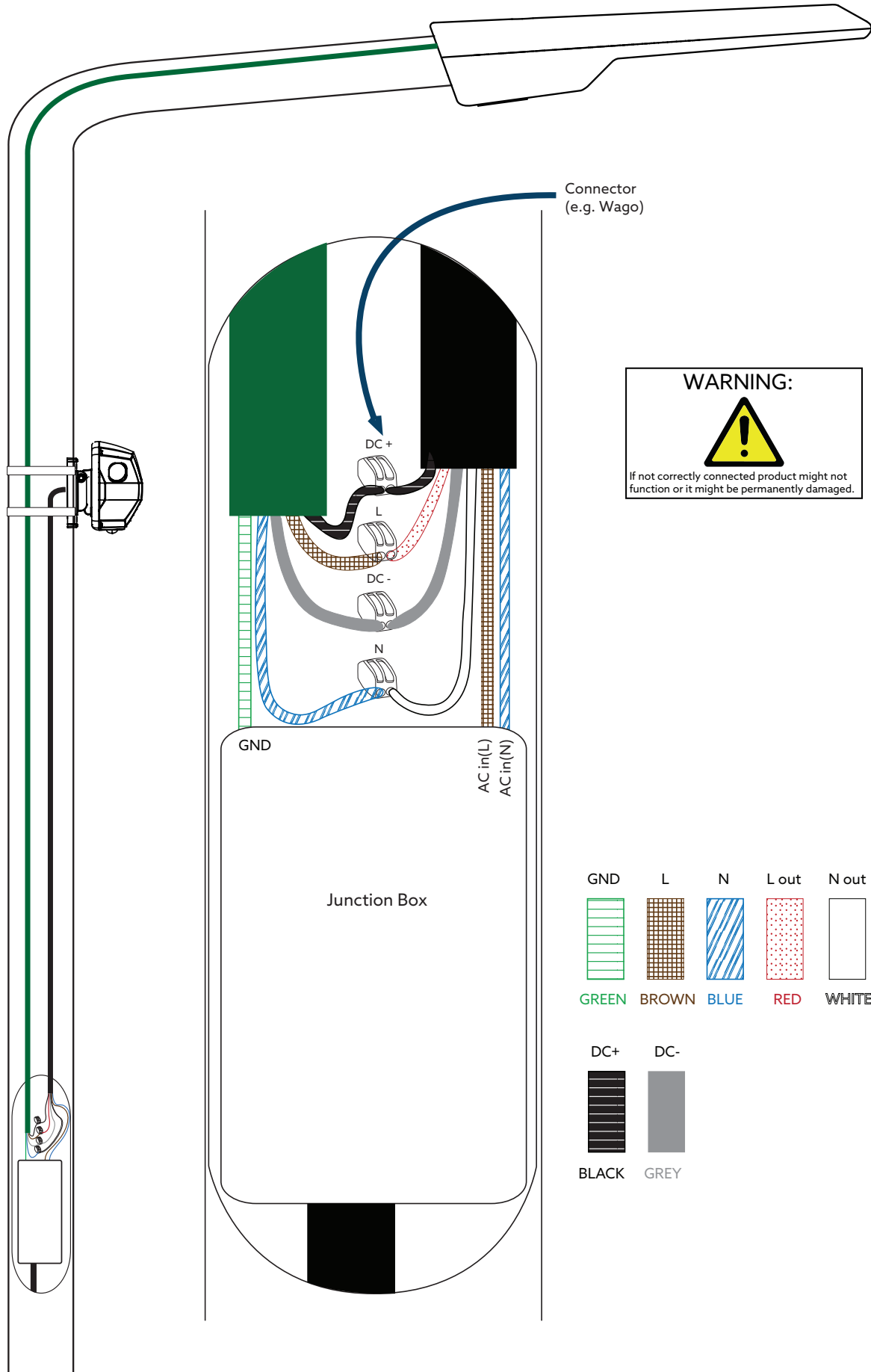
**Note: The type of ballast must be known before installation.**

7. Press save and move to next device.

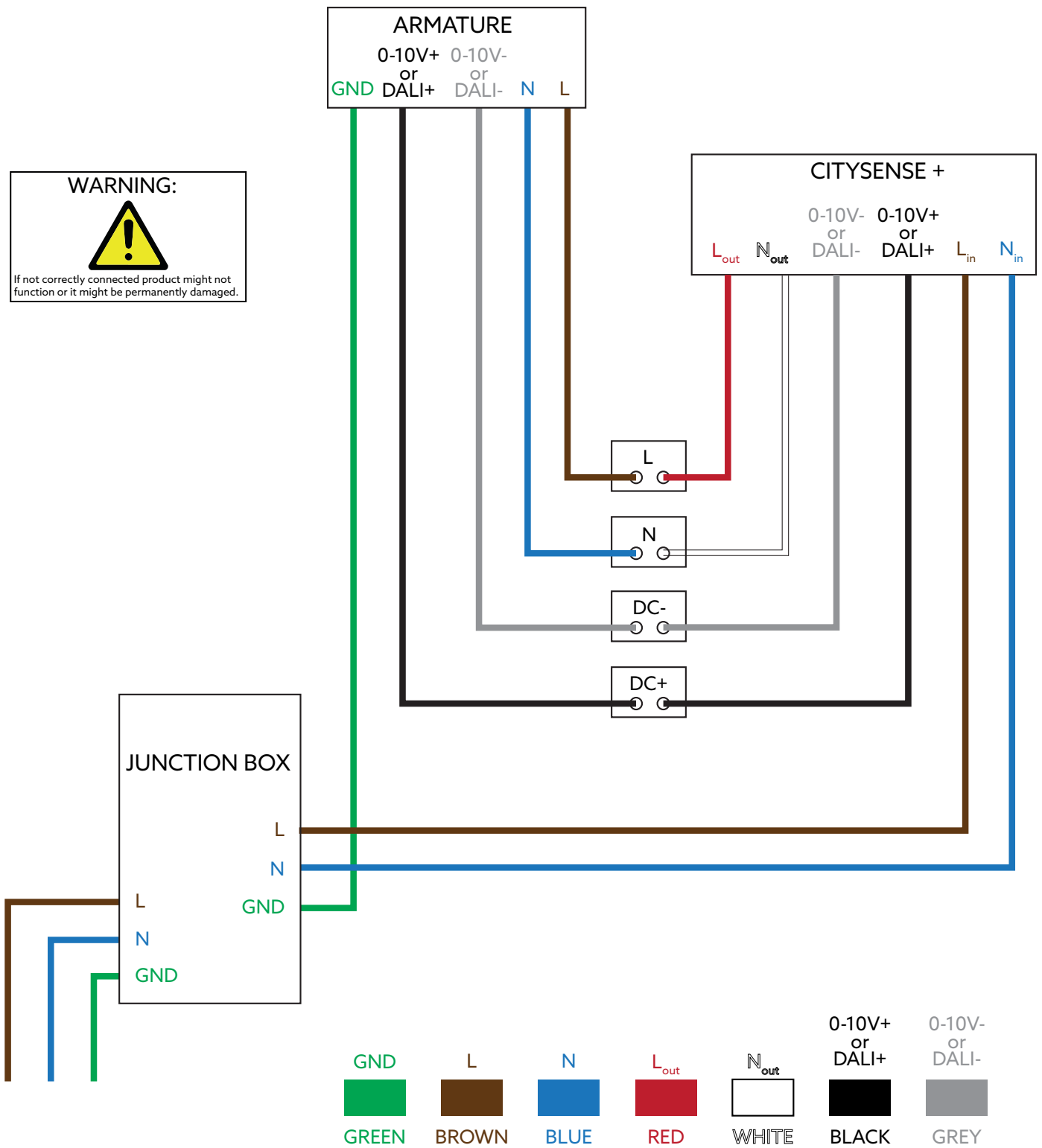
For more information on how to use Scan&Go app, please visit:  
<https://www.tvilight.com/scan-go/>



# Wiring Diagram



# Wiring Diagram



**Note:** For added protection, an external circuit breaker at the power input of the product is mandatory. Circuit breakers such as the ELeQ LS-94 5L2408 or similar rated products are acceptable.